

Pipetting Challenge

Recommended Grade Level: 7-12th Grade

Demonstration Time: Flexible

Objective: Students learn about common pipettes used in the lab. They will also have the opportunity to use these pipettes to fill a 96-well plate with colored solution.

Newborn Screening/ Starch- Iodine Reaction

Recommended Grade Level: 7-12th Grade

Demonstration Time: Flexible

Objective: Students in grades 7th- 8th learn about the starch-iodine reaction; Students in grades 9-12th learn about the starch-iodine reaction in addition to basic understanding of the Biotinidase analysis in our Newborn Screening Laboratory

DNA Extraction- Gene in a Bottle

Recommended Grade Level: 7-12th Grade

Demonstration Time: 1 hour

Objective: Students learn about DNA and various laboratory applications. Students will extract their DNA from their cheek cells.

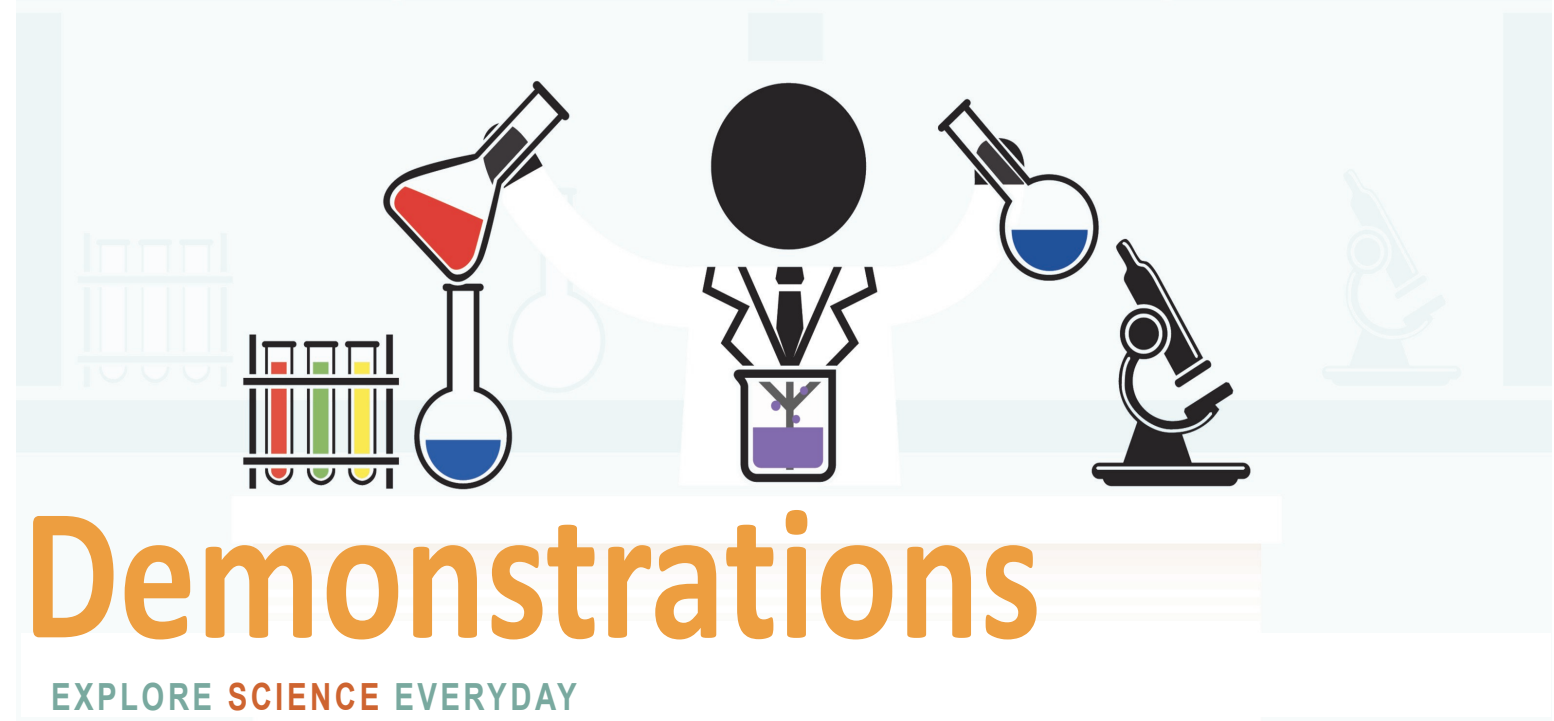
Blood Typing

Recommended Grade Level: 7-12th Grade

Demonstration Time: Flexible

Objective: Students learn about blood typing. Students are able to perform a blood typing experiment; materials do NOT contain animal or human blood products. Students also learn about using Punnett square to determine blood type inheritance.

Do you have a science topic that isn't covered in our list? We can develop an experiment for you.



Demonstrations

EXPLORE SCIENCE EVERYDAY

THIS BOOKLET CONTAINS A COMPREHENSIVE LIST OF OUR DEMONSTRATIONS



exp!ore
LAB SCIENCE





Local school visits are FREE. Our Explore Lab Science team members provide hands-on science demonstrations to introduce children and young adults to laboratory science.

Please take a look at our comprehensive list of demonstrations.

School visits can be arranged by contacting Ninah Sasy at sasyn@michigan.gov

Elephant Toothpaste

Recommended Grade Level: K-5th Grade
Demonstration Time: Approximately 10-15 minutes per group of children
Objective: Students learn about catalyst and chemical reactions; this is a presentation not a hands-on experiment for students.

Make Your Own Bouncy Ball

Recommended Grade Level: K-8th Grade
Demonstration Time: Flexible
Objective: Students learn about polymers.

Plant Growth

Recommended Grade Level: K-8th Grade
Demonstration Time: Flexible
Objective: Students learn key terms associated with plant growth and photosynthesis.

Density Tower

Recommended Grade Level: K-8th Grade
Demonstration Time: Approximately 5 minutes per child
Objective: Students learn about density and hands-on use of laboratory pipettes.

Insta-Worm

Recommended Grade Level: K-8th Grade
Demonstration Time: Flexible
Objective: Students learn about polymers and absorbency.

Glo Germ

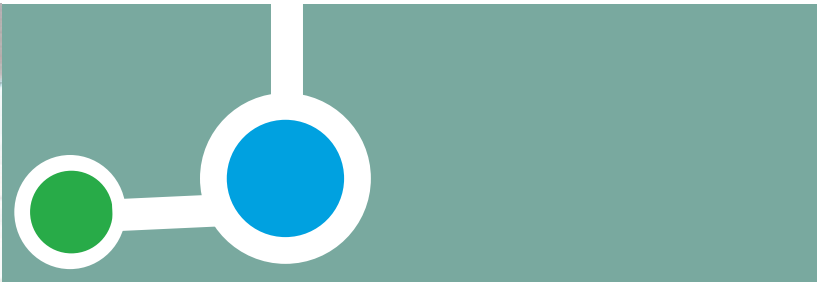
Recommended Grade Level: K-8th Grade
Demonstration Time: Flexible
Objective: Students learn about germs and activity allows students to see areas that they're neglecting while washing their hands.

Magic Color Breakdown

Recommended Grade Level: K-8th Grade
Demonstration Time: Approximately 10 minutes for experiment completion
Objective: Students learn about chromatography.

Make Your Own Slime

Recommended Grade Level: K-8th Grade
Demonstration Time: Flexible
Objective: Elementary students learn about polymers. Middle school students are introduced to cross-linking and a more in-depth discussion of polymers.



Weight & Volume

Recommended Grade Level: K-8th Grade
Demonstration Time: Flexible
Objective: Students will learn about measuring liquids and solids. Students will be provided with scales and various types of glassware; as with all of our demonstrations, the complexity of this experiment will vary based on the student's grade level.

Balloon Volcano

Recommended Grade Level: K-8th Grade
Demonstration Time: Flexible
Objective: Students learn about measuring mass and volume as well as the basics of chemical reactions.

Testing Sunscreen SPF

Recommended Grade Level: K-8th
Demonstration Time: Flexible
Objective: Students learn about UV rays and SPF while using sun sensitive paper. Students will also make predictions and observations. This experiment is performed outdoors.

Rocket Balloon

Recommended Grade Level: K-8th
Demonstration Time: Flexible
Objective: Students learn about Newton's Three Laws of Motion. This experiment is performed outdoors.

Make a Shrinky Dink Cell

Recommended Grade Level: K-12th Grade
Demonstration Time: Flexible
Objective: Students learn about plant and animal cells and associated organelles.


Magic Sand

Recommended Grade Level: K-12th Grade
Demonstration Time: Flexible
Objective: Students learn about hydrophilic substances versus hydrophobic substances.

Make Your Own Cell

Recommended Grade Level: K-12th Grade
Demonstration Time: Flexible
Objective: Students learn about cell organelles; as with all of our demonstrations, the complexity of this experiment will vary based on the student's grade level. Smaller groups/classrooms have the option of making their own edible cell using cookies and toppings.






Growing Bacteria/ Agar Lab

Recommended Grade Level: K-12th Grade

Demonstration Time: Flexible

Objective: Students learn about agar plates and bacteria growth; the complexity of this experiment will vary based on the student's grade level.



Have Your DNA & Eat It Too

Recommended Grade Level: K-12th Grade

Demonstration Time: Flexible

Objective: Students learn about DNA structure while building their own model using licorice, marshmallows, and toothpicks; the complexity of this experiment will vary based on the student's grade level.

Microscope/ Make Your Own Cheek Cell Slide

Recommended Grade Level: K-12th Grade

Demonstration Time: Flexible

Objective: Students in grades K- 4th can view previously prepared slides using a microscope; Students in grades 5th- 9th can prepare their own slides using their cheek cells.

Lava Lamp

Recommended Grade Level: 4-8th Grade

Demonstration Time: Flexible

Objective: Students will learn about density and molecular polarity. Students will create lava lamp to take home.

Mentos Geyser

Recommended Grade Level: 4-8th

Demonstration Time: Flexible

Objective: Students learn about Newton's Three Laws of Motion. This experiment is performed outdoors.

Lights Out

Recommended Grade Level: 4-8th Grade

Demonstration Time: Flexible

Objective: Students learn about fluorescence and luminescence light. The presenter will engage the audience using light sticks and UV lights; this is a presentation not a hands-on experiment for students.

Atomic Slime

Recommended Grade Level: 4-12th Grade

Demonstration Time: Flexible

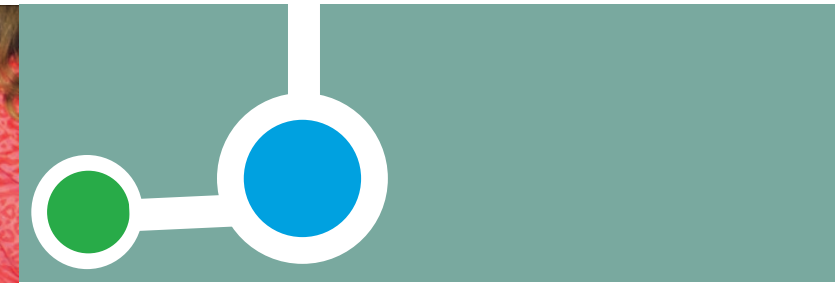
Objective: Students learn about fluorescence and polymers. High school students are introduced to chemical compounds like sodium tetraborate, which holds the slime together.

Foam Gnomes

Recommended Grade Level: 4-12th

Demonstration Time: Flexible

Objective: Students learn chemical reactions, chemical change, and the term exothermic.



Banana DNA Extraction

Recommended Grade Level: 4- 12th Grade

Demonstration Time: Flexible

Objective: Students learn about DNA and various laboratory applications. Students will extract DNA from fruit using common household items.

Atoms, Elements, and Molecules

Recommended Grade Level: 5-12th Grade

Demonstration Time: Flexible

Objective: Students will learn about atoms, elements and molecules. Students will build common molecules using 3-D molecule kits. Students will receive a periodic table of element on heat sensitive paper to take home.

Case of the Kidnapped Cookies

Recommended Grade Level: 5-12th Grade

Demonstration Time: 1.5- 2 hours

Objective: Students will analyze clues found at the crime scene using several laboratory techniques.

Ocean Bubbles

Recommended Grade Level: 5-12th Grade

Demonstration Time: Flexible

Objective: Students will learn about chemical reactions between coral sand and vinegar.

Newborn Screening/ Starch- Iodine Reaction

Recommended Grade Level: 7-12th Grade

Demonstration Time: Flexible

Objective: Students in grades 7th- 8th learn about the starch-iodine reaction; Students in grades 9-12th learn about the starch-iodine reaction in addition to learning about Biotinidase analysis in our Newborn Screening Laboratory.

DNA Extraction- Gene in a Bottle

Recommended Grade Level: 7-12th Grade

Demonstration Time: 1 hour

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pH Experiment

Recommended Grade Level: 7-12th Grade

Demonstration Time: Flexible

Objective: Students learn about pH and conduct hypotheses.

